



The Gene and Linda Voiland School of
**Chemical Engineering and
Bioengineering**
2015 Seminar Series
Monday, February 9, 2015
12:10 p.m. Wegner G1



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Benjamin A. Wilhite is Associate Professor of Chemical Engineering in the Artie McFerrin Department of Chemical Engineering at Texas A&M University, where he served as Interim Associate Department Head from 2011 - 2013. He currently serves as a director for the American Institute of Chemical Engineers' Catalysis and Reaction Engineering Division, secretary of the board of ISCRE, Inc. and on the editorial advisory board for the Journal of Industrial and Engineering Chemistry Research. He is the 2007 recipient of the Office of Naval Research Young Investigator Program, the 2008 National Science Foundation CAREER award and the 2008 DuPont Young Professor Grant. He received his Ph.D. in Chemical Engineering at the University of Notre Dame in 2003, and his B.S. in Chemical Engineering from North Carolina State University in 1997.

**Process Intensification in Chemical Engineering and Materials Science:
Advancing our Energy and Sustainability Future.**

Chemical Reaction Engineering (CRE) remains a critical research area to the development of new process technologies for the energy, chemicals and fuels sectors. At the forefront of CRE research is the manipulation and/or integration of reaction and transport phenomena across multiple scales in order to realize novel processes and materials, or Process Intensification. This talk will provide an overview of how this strategy can be implemented to achieve breakthroughs in heat-integrated micro-reactors and mass-integrated membrane reactors for natural gas and shale gas utilization. Extension of this approach to materials development will be also be highlighted, using the recent development of highly size-selective layer-by-layer (LbL) polymeric assemblies and novel electroceramic materials for membrane applications as examples.